

First, the applicant respectfully notes that the Examiner's reasoning for the rejections has been previously addressed and overcome. In particular, in the office action mailed September 18, 2002, the Examiner reasoned that Lustig disclosed and/or suggested claims 17-53. In the reply mailed on January 21, 2003, the applicant explained why Lustig does not disclose or suggest the rejected claims. In a supplemental office action, the applicant added claims 54-61 but did not amend claims 17-53. On December 23, 2003, the Examiner allowed claims 17-61. Now, the Examiner rejects claims 17-61, which have not been amended since they were allowed, and does so relying on the same reasoning presented in the September 18<sup>th</sup> office action. The applicant respectfully submits that since the Examiner has not raised any new issues or responded to the arguments from the reply mailed January 21, 2003, the office action has not advanced prosecution.

In any case, as previously discussed in the applicant's January 21<sup>st</sup> reply, Lustig fails to disclose or suggests claims 1-61 for the reasons indicated below.

Claim 17

Claim 17 calls for a polishing pad that has an article having a polishing surface and a surface opposite the polishing surface for attachment to a platen, a solid substantially transparent section formed in the polishing surface, and an aperture formed in the surface opposite the polishing surface and aligned with the transparent section.

The Examiner states that "Lustig et al. discloses a polishing pad having a first layer being a polishing surface (66) with an aperture, a substantially transparent section (72) in a second layer (which is the top element (62)), motor (col.4, line 42), a carrier head (60), and a light beam (77)."

Unfortunately, Lustig's disclosure does not support the Examiner's position. What Lustig teaches is a window (72) formed in the platen (64), and a viewing aperture (73) formed in the polishing pad (66) to overlie the window (72). Lustig explicitly states that "viewing window 72 is embedded within the table 62, and more particularly, such that a top surface of the window is substantially flush with a top surface of the platen 64." Thus, Lustig's solid transparent piece is located in the platen, and is not part of the polishing pad at all.

Since Lustig fails to show a polishing pad having a solid substantially transparent section formed in the polishing surface, claims 17, and the claims depending therefrom, should be allowable.

Claim 23

Claim 23 calls for a polishing pad with a first layer having a polishing surface and a solid substantially transparent section, and a second layer adjacent to the first layer having an aperture substantially aligned with the transparent section.

The Examiner argues that Lustig teaches a polishing pad with a top layer and a bottom layer. Again, Lustig's disclosure simply does not support the Examiner's position. Lustig clearly teaches a single-layer polishing pad (66) placed on top of a platen (64) (see Figure 8).

In addition, Lustig's solid transparent piece is located in the platen, and is not part of the polishing pad.

Since Lustig fails to show a polishing pad with a first layer having a polishing surface and a solid substantially transparent section, and a second layer adjacent to the first layer having an aperture substantially aligned with the transparent section, the rejection of claim 23, and the claims depending therefrom, must be withdrawn.

Claims 27 and 37

Claim 27 calls for a polishing pad with an article having a polishing surface and a solid substantially transparent section, the transparent section having a first portion with a first dimension and a second portion with a second, different dimension.

Similarly, claim 37 calls for a polishing pad with an article having a polishing surface, an aperture formed in the article, and a substantially transparent plug secured in the aperture, wherein the plug includes a first section with a first lateral dimension and a second section with a second, different lateral dimension.

First, Lustig fails to teach a polishing pad with a solid substantially transparent section.

Furthermore, claim 27 calls for a transparent section in the polishing pad having two portions of two different dimensions. Claim 37 calls for a polishing pad with a plug that includes two sections with different lateral dimensions. Lustig simply does not teach or suggest these

features. Since Lustig does not teach or suggest a polishing pad with a transparent section having a first portion with a first dimension and a second portion with a second, different dimension, claims 27 and 37, and the claims depending therefrom, should be allowable.

Claim 31

Claim 31 calls for a chemical mechanical polishing apparatus with a carrier head to hold a substrate, a polishing pad having a polishing surface and a surface opposite the polishing surface, and a motor to generate relative motion between the carrier head and the polishing pad. The polishing pad includes a first layer having a polishing surface with a solid transparent section and a second layer adjacent to the first layer having an aperture substantially aligned with the transparent section.

As discussed above, Lustig teaches is a window (72) formed in the platen (64), and a viewing aperture (73) formed in the polishing pad (66) to overlie the window (72). Lustig's solid transparent piece is located in the platen, and is not part of the polishing pad at all. In addition, Lustig clearly teaches a single-layer polishing pad (66) placed on top of a platen (64) (see Figure 8).

Since Lustig fails to show or suggest a polishing pad having a solid transparent section formed in the polishing surface, claim 31, and the claims depending therefrom, should be allowable.

Claim 47

Claim 47 calls for a polishing pad with a polishing layer having a polishing surface and a bottom surface, an aperture formed in the polishing layer, and a substantially transparent plug, wherein the plug includes a first section in the aperture and a second section secured to the bottom surface of the polishing layer.

The Examiner did not provide any reason for the rejection of claim 47.

In any event, since Lustig fails to show or suggest a polishing pad having a substantially transparent plug that includes a first section in an aperture and a second section secured to the bottom surface of the polishing layer, claim 47, and the claims depending therefrom, should be allowable.

Claim 54

Claim 54 recites a solid substantially transparent section formed in the polishing surface, wherein the transparent section diffuses light passing therethrough. For reasons similar to those discussed above, Lustig fails to disclose or suggest the claimed substantially transparent section. Claim 54 and claim depending therefrom should be allowed.


103 REJECTIONS

Claims 24 and 25 stand rejected as being unpatentable over Lustig. For reasons similar to those discussed above, the applicant respectfully submits that Lustig does not suggest claims 24 and 25, which should be allowed.

No fee is believed to be due. If, however, there are any charges or credits, please apply them to Deposit Account No. 06-1050.

Respectfully submitted,

Date: June 2, 2001



Tim H. Pham  
Reg. No. 48,589

Telephone: (650) 839-5070  
Facsimile: (650) 839-5071